Electric Bus "ZEB" Program Update

Josh Baker
General Manager

Raymond Mui
Assistant General Manager

Approaches

- Strategic Discussions with EPC, Board and City Council
- Visit Manufacturer Facilities in Aniston, AL; Greenville, SC; San Francisco, CA; St. Cloud, MN; and Los Angeles, CA
- Currently in final stages of ZEB Feasibility Study conducted by the Center for Transportation and Environment (CTE)
- Completed New Flyer (Battery), Proterra (Battery) and ENC (Fuel Cell Hydrogen) Long Term Revenue Service Demonstrations; gathered significant telemetric bus performance data for analysis
- Attended ZEB Conferences for past two (2) years in CA.
- Visited Peers with vehicles in revenue service (DC Circulator)

Fleet Plan

- Initial Six (6) Electric Buses are in production for delivery mid-2020
- TDP and CIP updated to reflect transition plan to ZEB's for all replacement and expansion buses on or before 2027
- ATC Board of Directors Commitment to ZEB plan
- Pursuing all available unique and alternative methods of funding capital projects
- May need to modify fleet plan to consider implications of Alexandria Transit Vision (ATV) network redesign for ZEB's

Funding Sources and Mechanisms

- Leveraged Existing Capital Improvement/Fleet Replacement Local General Funds
- Awarded Northern Virginia Transit Authority (NVTA) Funds (Facility and Buses)
- Applied for Volkswagen Settlement Funds, awarded first round, second round forthcoming and plan to apply
- Evaluated opportunities in the LoNo Federal Grant Program, no applications submitted at this point
- Awarded Virginia SmartScale Projects (2) (Facility Expansion and 12 ZEB's with Chargers)

First 6 Electric Buses

- Funded by VW Mitigation Funds, covers funding gap for buses and chargers.
- Order strategically split between two manufacturers; Proterra and New Flyer.
- Proterra Buses (3)
  - 440 kWh Battery Capacity, Depot Charged
  - 125 KW Proterra Depot Chargers with dual dispensers
- New Flyer Buses (3)
  - 466 kWk Battery capacity, Depot Charged
  - 150 KW ABB Depot Chargers with dual dispensers
- All equipped with dual side charge ports and overhead charge rails.
- Buses on schedule for delivery mid-2020.
- Benefits: Allows for DASH to pilot and demonstrate industry standardization of charging technology, different charging practices.

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Planning for the Future

- All buses must have minimum Battery Capacity (400kw)
- Ensure upgrade capabilities as technology improves
- Utilize most current charger technologies (Proterra and ABB)
- All buses equipped with Overhead Charge Rails for future "opportunity charging"
- Key Issues:
  - Current technology can sustain only 74% of current service profile
  - Must explore strategies to surpass this threshold should technology not catch up
  - Technicians lack training and facility lacks equipment for maintenance
  - Current Facility capacity can only accommodate a maximum of six (6) chargers, service to facility requires upgrades

Questions?

Josh Baker
CEO & General Manager

Alexandria Transit Company
3000 Business Center Drive
Alexandria, VA 22314

Josh.Baker@alexandriava.gov